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Amend

a recording head for ejecting ink droplets, based on the raster data, while moving over a recording medium with a plurality of ink ejection nozzles arranged thereon,

wherein said interpreter includes a pattern changing means for checking whether the data pattern indicates solid-drawing in the thick line or the filled-in area for which the drawing is indicated and, if the solid-drawing is indicated, changing the data pattern for the thick line or filled-in area to a data pattern of a lower-density.

REMARKS

Reconsideration is respectfully requested.

Claims 1-12 are pending in this application of which claims 1 and 7 are amended herein.

Claims 1-6 are objected to related to a syntax error in line 15 of claim 1. Applicant thanks the Examiner for providing a suggested correction, which has been adopted and is included in the amendment to claim 1. Accordingly, it is respectfully requested that the objection be withdrawn.

Claims 1, 2, 4-8 and 10-12 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Karaki U.S. 5,699,49 in view of Klassen U.S. 5,515,479 and Albosta et al U.S. 4,098,638. Applicant respectfully traverses this rejection.

Claims 3 and 9 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Karaki U.S. 5,699,49 in view of Klassen U.S. 5,515,479 and Albosta et al U.S. as applied to claim

2 and 8 above, and further in view of Mizutani U.S. 5,774,146.

Applicant respectfully traverses this rejection.

Karaki's preprocessor (15) detects black areas contacting with color areas in figures or characters in a page on the basis of received drawing command so that the color of black areas contacting with color areas are changed from pure black to composite black (see Karaki abstract, column 1, lines 48-54). This processing is performed on the basis of a description in a high level language (see Karaki column 2; lines 43-46). While this may be similar to the present invention in that the processing is not based on bit map images, however, notwithstanding the Examiner's indications in the Office Action, Karaki fails to disclose the feature of Applicant's claimed invention that the interpreter checks "whether the specified data pattern indicates solid-drawing in the thick line or the filled-in area for which the drawing is indicated" in a system which "converts vector data of the thick line or the filled-in area into raster data based on a specified data pattern which contains a predetermined matrix of ON and/or OFF dots". Please note that the term "solid-drawing" means that the specified data pattern is the data pattern including a matrix of all "ON" dots. Karaki also fails to disclose "if the data pattern specified to a particular thick line or filled-in area indicates solid-drawing, changing the data pattern for that particular thick line or filled-in area to a data pattern of a lower density for preventing an ink splash during printing".

Klassen's detection of ink coverage is performed based on bitmap images and therefore it also fails to show the above-mentioned interpreter's operation of Applicant's claimed invention.

Therefore, no matter how Karaki is combined with Klassen it does not teach or suggest Applicant's inventions recited in claims 1 and 7. Further, the addition of Albosta et al adds nothing that would teach or suggest the claimed invention.

Claims 1 and 7 therefore are submitted to be allowable. Claims 2-6 and 8-12 are dependent directly or indirectly from claim 1 or 7, and hence, are also allowable. With respect to claims 3 and 9, Mizutani does not add anything which would teach or suggest the claimed invention.

Please note also that with respect to claims 4 and 10, the term "thickness" of a thick line stands for not the "density" but the line width of a thick line and, therefore, the Examiner's statement at the fist paragraph in page 5 of the Office Action is incorrect.

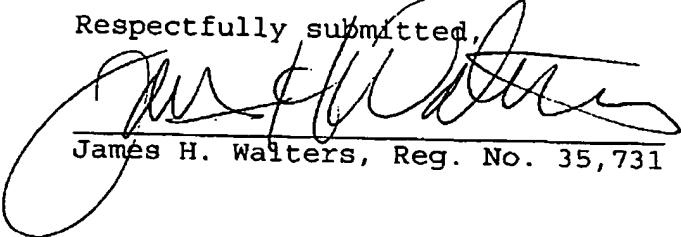
It is respectfully submitted that the claims are therefore allowable and that the claims would not be obvious in view of the proposed combination of cited documents.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless applicant has argued herein that such amendment was made

to distinguish over a particular reference or combination of references.

In light of the above noted amendments and remarks, this application is believed in condition for allowance and notice thereof is respectfully solicited. Please contact applicant's attorney at 503-224-0115 if there are any questions.

Respectfully submitted,

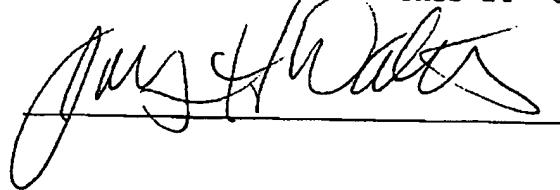


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MARKUP SHEETS SHOWING CLAIM AMENDMENTS MADE HEREIN

1. (Amended three times) An ink jet recording method which receives a command and data which indicate a drawing of a thick line or a filled-in area, analyzes the command and the data by an interpreter, converts vector data of the thick line or the filled-in area into raster data based on a [given] specified data pattern which contains a predetermined matrix of ON and/or OFF dots, after the analysis, and, based on the raster data, ejects ink droplets while moving a recording head over a recording medium with a plurality of ink ejection nozzles arranged thereon, said method comprising the steps of:

before converting the vector data to the raster data, checking by said interpreter whether the specified data pattern indicates solid-drawing in [each of] the thick line or the filled-in area for which the drawing is indicated; [and]

if the data pattern specified to a particular thick line or [filled-in] filled-in area indicates solid-drawing, changing the data pattern for that particular thick line or filled-in area to a data pattern of a lower-density [pattern, thereby] for preventing an ink splash during printing; and

converting the vector data of the thick line or the filled-in area into raster data based on the vector data and the data pattern when ejecting ink droplets according to the raster data;

wherein said recording method is performed while operating said recording head in a single pass recording mode.

7. (Amended Three times) An ink jet recording device comprising:

an interpreter for analyzing a command and data which indicate a drawing of a thick line or a filled-in area;

means for converting vector data of the thick line or the filled-in area into raster data based on the vector data and a [given] specified data pattern which contains a predetermined matrix of ON and/or OFF dots, after the analysis by the interpreter; and

a recording head for ejecting ink droplets, based on the raster data, while moving over a recording medium with a plurality of ink ejection nozzles arranged thereon,

wherein said interpreter includes a pattern changing means for checking whether the data pattern indicates solid-drawing in [each of] the thick line or the filled-in area for which the drawing is indicated and, if the solid-drawing is indicated, changing the data pattern for the thick line or filled-in area to a data pattern of a lower-density [pattern].